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ABSTRACT

The process of instructional consultation with feedback at postsecondary institutions is explored. In the past decade, instructional support to faculty has become a priority in many institutions of higher education. One popular method of helping faculty improve their teaching is through consulting with them about their teaching and feeding back information about their effectiveness in the classroom. Until now, there has been little systematic study of the process, so practitioners have few research-based guidelines for providing effective feedback. In this study, verbal interactions between instructional consultants and their faculty clients were examined. Results show that consultants spent most time listening or silently reviewing information, suggesting and discussing solutions, discussing information about their clients, and giving their opinions and interpretations. Clients spent most time listening or silently reviewing information, talking about themselves, and identifying and discussing problems. Consultants asked more questions than clients, but spent the same amount of time in silence, talking, and making statements. When novice and experienced consultants were compared, no differences were found in the amount of time they spent talking, opining, identifying problems, and suggesting solutions; also no difference was found in the number of questions they asked. Two models of consultation--Prescription and Collaborative--were the most frequently practiced by both novice and experienced consultants. Further research is needed to determine which model of consultation, under what conditions and with which kinds of consultants and clients, is most effective in producing change in instruction. Contains 27 references. (Author/SM)

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Instructional Consultation with Feedback in Higher Education

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Abstract

In the past decade instructional support to faculty has become a priority in many institutions of higher education. One popular method of helping faculty improve their teaching is through consulting with them about their teaching and feeding back information about their effectiveness in the classroom. However, at present, there exists little systematic study of the process and, thus, practioners have few research-based guidelines for providing effective feedback.

This study explores and describes the process of instructional consultation with feedback at postsecondary institutions. Five experienced and five novice instructional consultants from eight universities across the United States and Canada videotaped themselves in a typical consultation session. Verbal interactions were coded according to four models of consultation found in the theoretical literature.

Results show that consultants spent most time listening or silently reviewing information, suggesting and discussing solutions, discussing information about their clients, and giving their opinions and interpretations. Clients on the other hand spent most time listening or silently reviewing information, talking about themselves, and identifying and discussing problems. Consultants asked more questions than clients, but spent the same amounts of time in silence, talking, and making statements. When novice and experienced consultants were compared, no differences were found in the amount of time they spent talking, opining, identifying problems, and suggesting solutions; also no difference was found in the number of questions they asked. Two models of consultation -- Prescription and Collaborative -- were the most frequently practiced by both novice and experienced consultants. Further research is needed to determine which model of consultation, under what conditions and with which kinds of consultants and clients, is most effective in producing change in instruction.

Instructional Consultation with Feedback in Higher Education

Introduction

Since the early 1970's many colleges, universities, junior colleges, and technical and vocational schools have established faculty development programs to improve teaching. An integral part of many of these faculty development programs is instructional consultation with feedback. However, many consultants who provide this service are uncertain about what constitutes effective practice. While some instructional consultants have received short-term instruction or on-the-job training, most instructional consultants report that they are "self-taught" and practice instructional consultation "by the seat of their pants."

This lack of formal training is exacerbated by a paucity of literature; instructional consultants have very few resources to draw upon. Most writings on the methods of providing instructional consultation focus on attitudes and philosophical issues; others are grounded in personal experience rather than in systematic research or theoretical principles. Literature in related fields, such as psychology and organizational behavior, is helpful but leaves many questions unanswered.

The purpose of this study was to increase our understanding of the process of instructional consultation with feedback by systematically examining the verbal interactions between instructional consultants and their faculty clients. Three exploratory questions guided the analysis: First, what happens in instructional consultation with feedback? That is, what are the patterns of verbal interaction between consultants and their clients? Second, what communications patterns characterize experienced and novice consultants? Do experienced and novice consultants differ in their communication patterns with clients? Third, are the four models of consultation proposed in the literature currently being used by instructional consultants? How descriptive are these models of actual consultative practice?

Related Literature

The present study grew out of previous research (Menges & Brinko, 1986) on the effectiveness of student ratings feedback for improving instruction. Our meta-analysis showed that feedback from student ratings alone produced a significant, but small, improvement in teaching. However, when the student ratings feedback was augmented by consultation, this small effect was quadrupled. Unfortunately, comparatively few studies include consultation and this general effect was not consistent across studies: Among the studies that included consultation, great variation was found in the size of effect, indicating that some consultation and feedback-giving was more effective than others.

In the field of organizational behavior, Ilgen Fisher, and Taylor (1979) presented a comprehensive review of the feedback literature and identified a large number of generally effective feedback practices. However, in the educational literature, few researchers have studied the process of instructional consultation with feedback. Orban (1981) provided a rich description of the interactions of one consultant using a collaborative model of consultation In her analysis of audiotapes Orban found that the consultant spoke less than one third of the time while reviewing the videotape with the instructor and less than half the time while reviewing information and formulating strategies for change with the instructor.

Others have studied instructional consultation, but without feedback. Rutt (1979) collected self-reports of practice and found that consultants did not favor any one model of consultation. Price (1976) used audiotapes to examine the communication patterns of instructional consultants and found that the consultants spoke more than half the time, mostly discussing solutions to clients' problems.

Recently, several researchers explored theories to guide the instructional consultation process. Smith (1983; Smith and Schwartz, 1985, 1988) suggested that Argyris and Schön's (1974) action theory can be used to help faculty examine their working assumptions about teaching. Menges (1987) proposed that cybernetics (Wiener, 1950) and control theory (Powers, 1973) can help identify points of intervention and types of interventions in instructional consultation. Brinko (1987) posited that Vygotsky's (1962, 1978) theory of cognitive development can guide communication between the consultant and faculty client.

Others, in organizational behavior as well as education, have proposed models of consultation (Blake & Mouton, 1983; Cash & Minter, 1979; Dalgaard, Simpson, & Carrier, 1982; Davies, 1975; Gallissich, 1974, 1982; Parsons & Meyers, 1984; Schein, 1969; Tilles, 1961), but have provided no empirical tests of the models.

Rutt (1979) posited that four of these proposed models -- Product, Prescription, Collaborative/Process, and Affiliative -- are appropriate for instructional consultation. Each of the four models is characterized by different kinds of interactions between consultant and client. For example, Product consultants supply solutions to problems that were identified and diagnosed by the client; sometimes the solution is some advice, but most times the solution is assistance on the construction of a test, slide show, video, film, or other "product." Prescription consultants act much like physicians; they identify and diagnose clients' problems and suggest what clients should do to remedy their problems. Collaborative consultants function more like partners and allow or encourage clients to identify, diagnose, and provide solutions to their own problems. While consultants in these three models focus on solving instructional problems, Affiliative consultants focus on solving personal problems that may cause or exacerbate

instructional problems.

Methods

Collecting Data

Ten instructional consultants at eight research-oriented, doctoral-granting universities in the United States and Canada submitted videotapes of themselves giving feedback to clients; provided supporting documentation to help the researcher understand the content of the videotapes; and completed a questionnaire that surveyed consultant demographic characteristics, educational attainments, and consultation practice.

Participants

Consultants. Responses from the questionnaire permitted the classification of the ten consultants as either "novice" or "experienced." The five novice consultants averaged less than two years of experience in faculty development, less than one year experience as an instructional consultant, and spent little of their professional time in instructional consultation. All were part-time employees of or volunteers in a faculty development unit on campus. One was a faculty member, two were staff, and two were graduate students. Three were female and two were male. Two had experienced some form of short-term training in consultation; the others were self-taught.

The five experienced consultants averaged more than nine years of experience in faculty development and instructional consulting, and spent almost half of their professional time in instructional consultation. All were employed full-time as instructional improvement specialists in an office or center for faculty development. Three were female and two were male. Only one reported any long-term formal training in consultation; the other four were self-taught.

Clients. The ten clients were instructors who taught at the same institutions as their respective consultants. All were native speakers of English. All were seeking feedback and consultation on instructional issues (rather than, for example, on personal, organizational, or other professional issues), and all were said by the consultants to be typical, rather than atypical, of the kind of client that the consultant usually sees. While they were homogeneous in these respects, clients were heterogeneous in other characteristics. The group represented a variety of disciplines, and consisted of males and females; faculty members and teaching assistants; new and returning clients; volunteers for consultation and non-volunteers.

Coding the Videotapes

No appropriate system for coding videotaped consultation sessions was found among the

existing observation instruments (see, for example, Simon & Boyer, 1974), so a coding system was developed. Verbal behaviors characteristic of four proposed models of consultation (Product, Prescription, Collaborative/Process, and Affiliative Models) were extrapolated from descriptions of the models (see Appendix A). For example, verbal behavior code 03 -- discusses theoretical/scholarly information -- is typical of the Product model, and verbal behavior code 07 -- discusses personal issues -- is typical of the Affiliative model. A Prescription consultant would frequently engage in verbal behaviors 33 through 38 -- identifying, diagnosing, and discussing problems and solutions, whereas a Collaborative consultant would permit or encourage the client to engage in these behaviors.

Each videotape was dubbed with a time-code display in minutes and seconds. Each second of videotape was coded in three ways. "Time" codes recorded the starting and ending times to indicate duration of the utterance. "Speaker" codes recorded who was talking: consultant, client, a third person who interrupts the session, or a video or audiotape that was playing. "Type of Verbal Behavior" codes (Appendix A) recorded the type of verbal behavior exhibited by the speaker; because of the complexity of the spoken word, up to two verbal behavior codes could be assigned to any one utterance. A pilot study on two randomly chosen videotapes refined the coding system. All tapes were then coded in a random order by two independent coders, one of whom coded the tapes "blind" to the characteristics of the consultants and the clients.

Reliability. The two videotape coders achieved a high level of reliability. Reliabilities of individual videotapes ranged from .75 to .86; the overall reliability of all tapes was .81 with a standard deviation of .04. However, disagreements between the two coders tended to be fairly consistent. Although some disagreements resulted from mistakes such as missing utterances or mistiming utterances, most disagreements occurred in the codes for verbal behaviors, and many of these disagreements occurred in the substantive talk, that is, talk other than acknowledgment of or agreement with what the other person is saying. Particularly troublesome were codes discriminating "new" from "continued" topics, and codes discriminating "identifying" from "diagnosing" a problem. Because of disagreements on these behaviors, these codes were collapsed for analysis.

Analyzing the Videotapes

A computer program written in Pascal for the IBM PC was developed to minimize error in the entry of the coded data and to summarize the coded data for further analysis. Summarized data were uploaded to a CYBER 845 mainframe computer and analyzed using the Statistical Package for the Social Sciences, version 10 (SPSS-X).

Patterns of verbal behavior. Patterns of verbal behavior in the instructional consultation

process were described with basic descriptive statistics. The small sample size (n = 10) precluded multivariate analysis, such as factor analysis or cluster analysis. Therefore, means, standard deviations, and frequencies describe the data.

Differences between novice and experienced consultants. Differences between novice and experienced consultants were determined by comparing summarized data for individual consultants on selected verbal behaviors. Non-parametric tests were more appropriate than parametric tests because (1) participants were self-selected rather than randomly chosen, (2) the distribution of the population of instructional consultants was unknown, and (3) the sample size was less than 30. Therefore, rather than the commonly used t-test, comparisons were made using Mann-Whitney U and Wilcoxon Rank Sum tests.

Models of consultation. To determine the frequency with which the four proposed models of consultation were actually used by the instructional consultants, a checklist based upon the four models of consultation was developed (see Appendix B). This checklist compared summarized data of individual consultant-client pairs with the behaviors proposed in the literature, and permitted each consultant-client pair to be described by one of the models.

Results

Patterns of Verbal Behavior

There was much variation in the composition of the ten consultant-client pairs, the length of the sessions, and the ways in which the consultants gathered information for the client. Sessions ranged from 30 to 62 minutes in length: Four were under 40 minutes, two were between 40 and 50 minutes, and four were longer than 50 minutes. Consultants used information from observations, videotapes, student ratings, and student discussions to feed back information to clients. Table 1 summarizes the characteristics of each pair.

Insert Table 1 about here.

Consultants. There was great variability among consultants in their verbal behaviors. However, on the average, consultants spent almost half of their sessions (M = 44.5%; SD = 19.2) in silence listening to their clients or reviewing data. A little more than one half of the session (M = 51.0%; SD = 19.8) was spent making statements. The rest of the time was spent in asking questions. Since it takes considerably less time to ask questions than to make statements, questions were summarized by frequency rather than by percentage of session. The present group of consultants asked their clients an average of 27.4 questions (SD = 16.5) throughout the session.

Clients. There was also great variability among clients in their verbal behaviors. However, on the average, clients spent half of their sessions (M = 50.0%; SD = 16.7) in silence listening to their consultants or reviewing data. Almost all of the other half of the session (M = 48.6%; SD = 16.1) was spent making statements. The small amount of remaining time was spent in asking questions: the present group of clients asked their consultants an average of 6.5 questions (SD = 4.6) throughout the session (see Table 2.)

Insert Table 2 about here.

Comparisons of Consultants and Clients. Data were compared by Mann-Whitney U and Wilcoxon Rank Sum tests to identify significant differences between consultants and clients in (1) percentage of session spent in silence, (2) percentage of session spent in substantive talk (all talk except acknowledgment/agreement), (3) percentage of session spent making statements, and (4) number of questions asked. Only the comparison of the number of questions asked yielded significant differences between groups. The data revealed a mean rank of 14.55 for the consultants and 6.45 for the clients, producing a u-value of 9.5 and w-value of 145.5 ($p \leq .002$; two-tailed test corrected for ties). Thus, consultants asked significantly more questions than clients.

Tables 3 summarizes the statements in which consultants and clients spent most time. Table 4 summarizes the questions that consultants and clients most frequently asked.

Insert Tables 3 and 4 about here.

Differences Between Experienced and Novice Consultants

Verbal behaviors of novice and experienced consultants were compared by Mann-Whitney U and Wilcoxon Rank Sum tests. No significant differences were found between experienced and novice consultants in seven categories of verbal behaviors. Experienced and novice consultants spent about the same proportion of their sessions engaged in substantive talk (all talk except acknowledgment/agreement); giving opinions, interpretations, and advice; identifying, diagnosing, and discussing problems of the client; and suggesting and discussing solutions to the clients' problems. They also asked similar numbers of questions, including similar numbers of questions clarifying something the client had said, and questions drawing out the clients' opinions or interpretation of the events (see Table 5).

Insert Table 5 about here.

Models of Consultation Reflected in the Interactions of Consultant-Client Pairs

Results from the checklist were quantified by scoring each item characteristic of the pair as one point. None of the consultant-client pairs interacted in a manner typical of the Product or Affiliative models. Conversely, all consultant-client pairs engaged in verbal behaviors characteristic of both the Prescription and Collaborative/Process models. This suggests that rather than being two discrete and mutually exclusive models, the Prescription model and the Collaborative/Process model run along a continuum. Each pair's score on the Collaborative/Process model was added to the inverse of their score on the Prescription model and classified along such a Prescriptive-Collaborative continuum.

From this scoring system, three consultant-client pairs were categorized as highly prescriptive in their interactions with their clients, and one consultant was classified as moderately prescriptive. Two consultants were classified as very collaborative, and four consultants were categorized as moderately collaborative (see Figure 1).

Insert Figure 1 about here.

Differences between novice and experienced consultants. Classification of consultant-client pairs into the four models of consultation was used to determine differences between experienced consultants and novice consultants in the model(s) of consultation that they use. The Prescriptive-Collaborative continuum in Figure 1 shows that novices (in bold) were just as likely as experienced consultants to be collaborative in their interactions, and that experienced consultants were just as likely as novices to be prescriptive in their interactions with clients. Two of the "Very Prescriptive" consultants (I and J) were novices, and three of the "Moderately Collaborative" or "Very Collaborative" consultants (B, D, and G) were experienced. Thus there were no differences between the experienced and novice consultants in the models of consultation that they employed.

Discussion

Limitations of the Study

Complete and accurate collection of data necessitated several changes in the routines of the

consultants, and these changes may have resulted in a slightly altered representation of the consultation process. First, usual methods of making acquaintance were interrupted to solicit the participation of clients, perhaps jeapordizing the formation of trust. Second, usual methods of leave taking were interrupted to solicit the client's consent for release of the videotape and supporting documents, perhaps altering the relationship and plans for future consultations. Third, the presence of the videotape camera may have altered consultant or client behavior in unknown ways. However, none of the consultants reported that these changes were problematic.

Perhaps the greatest limitation to the study was lack of power in the statistical analyses. Because of their cautious approach, Mann-Whitney U and Wilcoxon Rank Sum tests are much more likely than some other statistical tests to fail to detect a significant difference (Type B error).

Patterns of Verbal Behavior

On the average, consultants and clients spent about the same proportion of time speaking and silent. But there was great variability between consultant-client pairs, and oftentimes the amount of talk reflected the general style of consultation which ranged from very prescriptive to very collaborative.

These results help shed some light the contradictory findings of Orban (1981) and Price (1979), yet raise more questions than they answer. Orban's consultant met several times with her clients, fed back information to her clients, and used a "joint problem solving process...described as a collaborative venture...enriched by multiple perspectives and interpretations" (p. iii). As part of this collaborative model, she talked only about half the time. Conversely, Price's consultants met only once with their clients, did not include feedback in their discussions, and used an approach that was clearly prescriptive, although it was not identified as such. As a result, these consultants talked more than half the time, most of which was spent explaining and opining. The results of the present study show that Orban and Price were studying different populations of consultant-client pairs, but it is not clear why they were different. The patterns of behavior that emerge in a consultant-client meeting might be influenced by the variables just identified: the number of meetings (and hence, relationship) between the consultant and client; the presence or absence of feedback; and the model of consultation espoused by the consultant. Or behavior could be affected by expectations, personality traits, synergy between consultant and client, institutional climate, and so forth.

Questions for future explorations lie in these variables: First, what consultant traits or attitudes influence consulting behavior? Second, what client traits or attitudes influence consulting behavior? Third, what influence is exerted by characteristics of the consultation, such

as number of meetings, duration of meetings, location of meetings, presence of information for feedback, and so forth? Fourth, what influence is exerted by contextual variables, such as institutional mission, departmental expectations, professional rewards, and so forth? And finally, how can these four kinds of influences be manipulated to make the process more effective?

Novice and Experienced Consultants

Most consultants reported that they had no formal training and consulted "by the seat of their pants." Thus, it is not surprising that no differences were found between those with only a year or two of experience and those with many years. One explanation may be that those who self-select to be consultants already have developed a number of consulting and feedback-giving skills before they actually practice. Another explanation may be that consultants do not learn from experience.

However, in another way these results are quite puzzling. Experience should bring some degree of expertise, and experts should act differently from novices in the same area (see, for example, Leinhardt & Greeno, 1986). If this is true, the results of the present study do not represent the reality about novice and experienced consultants, and parts of the data collection and/or analysis were faulty. First, the sample may be homogeneous due to small size and/or self-selection. Second, differences between novices and experienced consultants may be confounded by personality, demographic, or environmental variables. Third, the categories of verbal behaviors in the coding system may be too broad or too narrow. Fourth, verbal behaviors in the current coding system may be inappropriate. Fifth, the four models as a basis for a coding system may be inappropriate. Finally, Mann-Whitney U and Wilcoxon Rank Sum tests may lack sufficient power to detect true differences.

A research question cannot be adequately answered by one study; a program of study must be undertaken to fully explore the phenomenon. The present study served well as a pilot study, but the work needs to be extended. The sample needs to be enlarged, and the coding system needs to be revised, deleting the verbal behaviors that are rarely (or never) exhibited. Verbal behaviors that are difficult to discriminate need to be combined while coding. Related verbal behaviors, such as all problem solving statements, might also be combined. Certainly, more powerful statistical procedures should be used in the analysis.

While the refining and extending of the present quantitative study is desirable, other exploratory studies are needed to identify other ways in which novices and experienced consultants may differ. For example, subtle yet important differences may exist in their nonverbal behaviors, complexity of problems and solutions, phrasing of statements and

questions, and so forth.

Models of Consultation

The absence of two of the four models, the Affiliative and the Prescription, in the present data conflicts with the responses of the instructional consultants in Rutt's study (1979) who reported using all four consulting models (Product, Prescription, Collaborative/Process and Affiliative). Different definitions of "style" and the absence of feedback in that study may account for part of the discrepancy. Differences between self-reports and actual practice may account for the rest. In fact, many of the consultants in the present study also reported using all four models at least some of the time in their practice.

It may be that the Product and Affiliative models are used by instructional consultants, but less frequently than the Prescription and Collaborative/Process models. For example, the Affiliative model focuses on personal problems. Since most consultants have backgrounds in fields other than counseling or clinical psychology, they may focus on topics more consonant with their area of expertise and refer personally-troubled clients to trained therapists.

Or it may be that the Affiliative and Product models are practiced as frequently as the Prescription and Collaborative/Process models, but these interactions were not represented in the sample. For example, participating consultants and/or clients may discuss sensitive and personal issues characteristic of the Affiliative model, but may have demurred from capturing those interactions on videotape. Similarly, consultants and clients may use the Product model as frequently as the Prescription or Collaborative/Process model, but in kinds of consultations that were not included in this study, such as "one-shot" office visits or long-term consultations. In Product consulting, the client has identified the problem, diagnosed the problem, and decided upon a solution; the consultant acts as a vendor of goods. It is difficult to imagine the client asking for -- or receiving -- feedback in conjunction with this type of interaction. Therefore, it may be that the Product model is less useful than other models as a guide for consultation that includes feedback.

In an extension of the present study, a more sophisticated instrument to replace the checklist could allow a more exact classification of consulting styles. A larger sample of consultant-client pairs could provide more accurate normative data for some items, which in turn could permit the weighting of items. For example, rather than a simple yes-no scale, points could be assigned to discriminate the "Prescriptiveness" between those consultants who spoke twice as much and those who spoke ten times as much as their clients, or to discriminate the "Collaborativeness" between consultants who asked varying numbers of questions.

The great variation in styles exhibited by the consultant-client pairs gives rise to another

critical concern: What behaviors are appropriate in the consulting process? What behaviors should consultants strive for? While many arguments have been made about the benefits of collaboration (Dalgaard, Simpson, & Carrier, 1982; Friere, 1970; Giroux, 1983; Orban, 1981; Schön, 1983), some posit that collaboration is possible only if the client has appropriate problem solving skills, the time to devote to collaboration, and the willingness to collaborate (Cash & Minter, 1979). This suggests that collaborative consulting may be more effective with more professionally mature teachers and those who desire collaboration, while prescriptive consulting may be more effective with novice teachers or those who do not have the time or interest in collaborating. It is unclear to what extent these concerns influenced the interaction of these ten consultant-client pairs. Interviews with consultants and clients could provide some insight into how the model of consultation emerges in the meeting.

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Table 1

Characteristics of Participants and Sessions

Consultant-Client Pair	Consultant Status	Consultant Sex	Client Sex	Length of Session	Type of Data Reviewed
A	Novice	Female	Female	49:10	Videotape
B	Experienced	Female	Male	32:27	Videotape
C	Experienced	Female	Male	52:00	Observation
D	Experienced	Male	Male	59:23	Observation
E	Novice	Female	Female	30:16	Observation
F	Experienced	Female	Male	54:41	Observation
G	Experienced	Male	Male	46:23	Discussion & Observation
H	Novice	Male	Male	62:04	Ratings
I	Novice	Female	Female	38:40	Observation
J	Novice	Male	Male	37:53	Ratings

Table 2

Average Percent of Session Consultants and Clients Spent Silent, Making Statements, and Asking Questions

	Percentage of Session	
	Consultants	Clients
Silence	44.5 (19.2)	50.0 (16.7)
Statements	51.0 (19.8)	48.6 (48.6)
Questions	4.5 (3.5)	1.4 (1.5)
Total	100.0	100.0

Note. Numbers in parentheses are standard deviations.

Table 3

Consultants' and Clients' Most Frequent Statements

Description of Statement and Verbal Behavior Code(s)	Percentage of Session	
	Consultants	Clients
Suggest and discuss solutions [37 + 38]	14.0 (7.2)	7.6 (5.0)
Discuss client information [01]	7.5 (8.0)	14.8 (7.6)
Give opinions, interpretations [21]	7.1 (5.7)	13.4 (10.4)
Acknowledge, agree [11]	7.1 (3.8)	8.2 (4.9)
Praise, identify a positive aspect [12 + 17]	7.0 (5.1)	0.7 (1.0)
Identify, diagnose, discuss problems [33 -36]	6.1 (5.4)	10.5 (8.2)
Discuss consultation process [08]	3.9 (4.0)	0.7 (1.2)
Discuss practical information [02]	3.3 (1.7)	1.4 (1.3)
Other statements	11.3 (15.1)	4.9 (5.9)

Note. Numbers in parentheses are standard deviations. Because of double-coding, the sum of the individual statements is more than the total percentage of session spent making statements (see Table 2).

Table 4

Consultants' and Clients' Most Frequent Questions

Description of Question and Verbal Behavior Code Number	Frequency	
	Consultants	Clients
Ask for client information [51]	11.5 (8.9)	0.4 (0.5)
Ask for other's opinion/interpretation [62]	4.3 (4.8)	0.6 (0.8)
Ask for clarification of other's statement [64]	3.2 (3.8)	1.9 (2.6)
Ask on which topic to focus [61]	1.7 (1.3)	0.1 (0.3)
Ask for problem id, diagnosis, discussion [83 - 86]	1.7 (2.7)	0.5 (1.0)
Ask for solution, discussion [87 + 88]	1.1 (1.7)	1.0 (1.3)
Ask about consultation process [58]	0.4 (1.0)	1.1 (1.3)
Other questions	4.6 (6.5)	1.3 (2.6)

Note. Numbers in parentheses are standard deviations. Because of double-coding, the sum of the individual questions is more than the total frequency of questions (see p. 5-6 of text).

Table 5

Comparisons of the Verbal Behaviors of Novice and Experienced Consultants

Verbal Behaviors Compared	Mean Rank	Results of Mann-Whitney U and Wilcoxon Rank Sum Tests: u	w	p≤
Statements (Based on percentage of session)				
Amount of substantive talk[1]				
Novice	5.60			
Experienced	5.40	12.0	28.0	.92
Giving opinions, interpretations, advice [21]				
Novice	5.40			
Experienced	5.60	12.0	27.0	.92
Identifying, diagnosing, discussing problems [33 - 36]				
Novice	4.80			
Experienced	6.20	9.0	24.0	.46
Suggesting and discussing solutions [37 + 38]				
Novice	5.80			
Experienced	5.20	11.0	29.0	.75
Questions (Based on frequency)				
Total number of questions				
Novice	5.10			
Experienced	5.90	10.5	25.5	.68
Number of clarifying questions [64]				
Novice	4.20			
Experienced	6.80	6.0	21.0	.17
Number of questions drawing out client's opinion [62]				
Novice	4.00			
Experienced	7.00	5.0	20.0	.12

Note. Numbers in brackets are verbal behavior codes (see Appendix A) used in comparison. [1]The comparison for substantive talk was calculated [100% - (% silence + % agreement)]. Reported values of p are two-tailed tests corrected for ties.

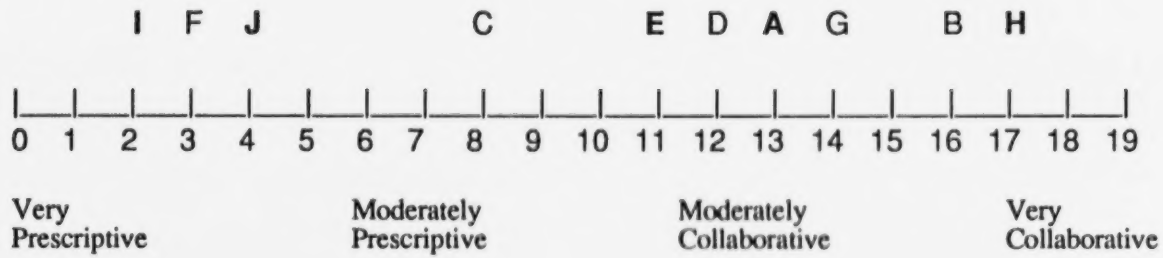
I F J C E D A G B H
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
Very Prescriptive
Moderately Prescriptive
Moderately Collaborative
Very Collaborative

Figure1. Models of consultation exhibited by consultant-client pairs. Novice consultants are shown in bold letters.

Appendix A

Verbal Behavior Codes

Statement categories:

Informational statements:

01 -- discusses client information

02 -- discusses practical information

03 -- discusses theoretical/scholarly information

04 -- explains "how to" or "the best way to"

05 -- demonstrates "how to" or "the best way to"

06 -- discusses professional issues

07 -- discusses personal issues

08 -- discusses instructional consultation process

09 -- summarizes discussion

Negotiating statements:

11 -- acknowledges/accepts/agrees with other's statement (verbal or non-verbal)

12 -- praises/makes approving comment/identifies positive aspect

13 -- checks own comprehension; repeats/paraphrases/extends other's statement

14 -- clarifies/paraphrases/repeats own statement

Persuasive statements:

21 -- gives interpretation/opinion/choice

22 -- rejects/challenges statement (verbal or non-verbal)

Problem-solving statements:

31 -- names topic on which to focus/to analyze

33 -- identifies problem (WHAT)

34 -- discusses problem

35 -- diagnoses problem (WHY)

36 -- discusses diagnosis

37 -- suggests alternative behaviors/solution to problem (HOW)

38 -- discusses alternative behaviors/solution to problem

Miscellaneous statements:

41 -- informalizes

42 -- non-predictive statement

43 -- ambiguous statement

44 -- inaudible statement or question

Questioning categories: (asks for or prompts)

Informational questions:

51 -- asks for client information

52 -- asks for practical information

53 -- asks for theoretical/scholarly information

54 -- asks "how to" or "the best way to"

56 -- asks about professional issues

57 -- asks about personal issues

Negotiating questions:

61 -- asks on which topic to focus/to analyze

62 -- asks for other's interpretation/opinion/choice

63 -- asks for other's identifcation of strengths/positive aspects

64 -- check on own comprehension; asks for repetition/clarification of other's statement

65 -- asks if other understands his/her statement

Persuasive questions:

71 -- solicits other's agreement

72 -- challenges statement

Problem-solving questions:

83 -- asks for other's identification of problem

84 -- asks for other's discussion/clarification of problem

85 -- asks for other's diagnosis of problem

86 -- asks for other's discussion/clarification of diagnosis

87 -- asks for other's suggestion for solution

88 -- asks for other's discussion/clarification of solution

Miscellaneous questions:

91 -- informalizes

92 -- non-predictive question

93 -- ambiguous question

Appendix B

Checklist Based on the Four Models of Consultation

Note. Information in brackets indicates the verbal behavior codes used for analysis (see Appendix A). **Denotes items that are necessary for that model; if these items are not characteristic of the consultant-client pair, the other items in that model are moot and thus are not considered.

Product Model:

1.) Client's main reason for seeking consultation is to request a product (e. g., book references, test construction, A-V materials) to solve a problem that the client has identified.** [Codes 53, 54, 55]
2.) Consultant spends a large proportion of time [undefined] explaining theoretical or scholarly information.** [Code 03]
3.) Consultant spends a large proportion of time [undefined] explaining "how to" or "the best way to."** [Code 04]
4.) Consultant spends a large proportion of time [undefined] demonstrating "how to" or "the best way to."** [Code 05]
5.) Consultant spends much more time making statements than asking questions (that is, the consultant spends more than the median proportion of time for all consultants, namely, 20 times as much time making statements as asking questions). [All codes]
6.) Consultant engages in much more substantive talk than the client (that is, the consultant engages more substantive talk than the median for all consultant-client pairs, namely, 10% more substantive consultant talk than substantive client talk). [100% minus (Silence plus Code 11)]
7.) Client identifies more topics on which to focus than the consultant. [Code 31]
8.) Client spends more time than the consultant identifying, diagnosing, and discussing problems. [Codes 33 - 36]
9.) Client spends more time than the consultant suggesting and discussing solutions (to be supplied by consultant). [Codes 37 - 38]

Prescription Model:

1.) Consultant identifies more topics on which to focus than the client. [Code 31]
2.) Consultant spends more time than the client identifying, diagnosing, and discussing problems. [Codes 33 - 36]
3.) Consultant spends more time than the client suggesting and discussing solutions. [Codes

37 - 38]

4.) Consultant spends more time than the client giving interpretations or opinions or advice. [Code 21]
5.) Consultant solicits the client's agreement more than the client solicits the consultant's agreement. [Code 71]
6.) Consultant spends much more time making statements than asking questions (that is, the consultant spends more than the median proportion of time for all consultants, namely, 20 times as much time making statements as asking questions). [All codes]
7.) Consultant engages in much more substantive talk than the client (that is, the consultant engages in proportionately more substantive talk than the median for all consultant-client pairs, namely, 10% more substantive consultant talk than substantive client talk). [100% minus (Silence plus Code 11)]

Collaborative/Process Model:

1.) Consultant more than the client asks the other for his/her interpretation or opinion. [Code 62]
2.) Consultant asks the client for clarification of something the client has said, or checks his/her own comprehension. [Code 64]
3.) Consultant asks the client to identify the topic on which to focus. [Code 61]
4.) Consultant asks the client to identify, diagnose, or discuss problems. [Codes 83 - 86]
5.) Consultant asks the client for solutions or to discuss solutions. [Codes 87 - 88]
6.) Consultant asks the client if the client understands consultant's statement. [Code 65]
7.) Consultant asks a large number of questions (that is, the consultant asks more than the median number of questions for all consultants, namely, 25 questions). [All codes]
8.) Client spends much more time making statements than asking questions (that is, the client spends more than the median proportion of time for all clients, namely, 50 times as much time making statements as asking questions). [All codes]
9.) Client engages in more substantive talk than the consultant -- or there are about equal amounts of substantive client talk and substantive consultant talk (that is, the client and consultant engage in substantive talk that is within the median proportion for all consultant-client pairs, namely, within 10% of each other). [100% minus (Silence plus Code 11)]
10.) Client identifies topics on which to focus more frequently than (or as frequently as) the consultant. [Code 31]
11.) Client spends more time than (or as much time as) the consultant in identifying,

diagnosing, and discussing problems. [Codes 33 -36]

12.) Client spends more time than (or as much time as) the consultant in suggesting and discussing solutions. [Codes 37 - 38]

Affiliative Model:

1.) Client spends a large proportion [undefined] of time discussing his/her personal problems/feelings.** [Code 07]

2.) Consultant spends a large proportion [undefined] of time discussing the client's personal problems/feelings.** [Code 07]

3.) Consultant asks questions about the client's personal problems or feelings.** [Code 57]

4.) Consultant reflectively listens, checks his/her comprehension, repeats, or paraphrases the client's statements. [Code 13]

5.) Consultant asks the client if the consultant accurately understands the client. [Code 65]

6.) Consultant spends considerable time praising the client or identifying positive aspects of behavior, personality, or teaching (that is, the consultant spends more than the median amount of time for all consultants, namely, 5% of the time praising). [Codes 12 + 17]

7.) Consultant spends considerable time agreeing with or acknowledging what the client says (that is, the consultant spends more than the median amount of time for all consultants, namely, 5% of the time agreeing/acknowledging). [Code 11]

8.) Consultant refrains from challenging the client. [Code 22]

9.) Consultant asks a large number of questions (that is, the consultant asks more than the median number of questions for all consultants, namely, 25 questions). [All codes]

10.) Client spends much more time making statements than asking questions (that is, the client spends more than the median proportion of time for all clients, namely, 50 times as much time making statements as asking questions). [All codes]

11.) Client engages in much more substantive talk than the consultant (that is, the client engages in proportionately more substantive talk than the median for all consultant-client pairs, namely, 10% more substantive client talk than substantive consultant talk). [100% minus (Silence plus Code 11)]

12.) Client identifies more topics on which to focus than the consultant. [Code 31]

13.) Client spends more time than the consultant identifying, diagnosing, and discussing problems. [Codes 33 - 36]

14.) Client and consultant spend about equal time suggesting and discussing solutions. [Codes 37 - 38]